

## SEQUENCE LISTING

<110> Mitsuhashi, Kazuya  
Yamamoto, Hiroaki  
Matsuyama, Akinobu  
Tokuyama, Shinji

<120> D-aminoacylase and gene encoding the same

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<140>

<141>

<150> JP 2000-019080

<151> 2000-01-27

<150> JP 2000-150578

<151> 2000-05-22

<160> 27

<170> PatentIn Ver. 2.0

<210> 1

<211> 1677

<212> DNA

<213> *Hypomyces mycophilus*

<400> 1

atgcggactg aaattctctt ccaactcagcc actgttatca cggcgatga agcagcccag 60  
ccctttgtgg ccgatgtgct ggtttcgaag ggactgattg ccaagattgg taaccccggt 120  
tccatcaatg caactccaga tacgcggcat ctgcagctca caggctacat tctatctcct 180  
ggtttcatcg atatgcatgc gcattcagac ctctacctac tctctcatcc tgaccacgag 240  
gccaaaatca cccaaggatg cacaacggaa gttgtgggcc aagacgggat atcatatgca 300  
ccaattcgta atgtagacca gttgagggcg atccgagaac agattgctgg atggaatggc 360

aatcctacag atgaggagtg cggacaact ctcaaaggcg ttggcatggt tgaatggcag 420  
actattgggg aatacttggg ttgtttggag agaaacagga cgccactaa tgcgccatg 480  
ttggttccgc aaggcaacct gagattattg gcatgtggcc catacgatac tccagcatct 540  
gcagaagaga ttcaagatca aatccagctc ttgcgagagg ctatggctca ggggtgctgtc 600  
gggatgtcta gtggtctcac ttatacaccg ggcatttatg cttccacgtc ggaactagct 660  
tctctgtcgc cgccctcgc acaagaattt ccagggtgat tctatgcgcc acatcataga 720  
agttatgggt tccaggccat cgaagttat gccgaaatgt tggatctcgg agagtcaaca 780  
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acgtatccat acttgccagg ctgtacaact ctggctgatg tgttgccaag ttgggcatct 960  
gctggcggcc cacaagagac gcttaaaagg cttgaggatg cagaatcgag agaaaagatt 1020  
cgtatagccg tggaatcaa aggggtgatg ggccgcatg gtattccaac caactgggac 1080  
gaaatccaga tcgggacgac taatgaacca tcaatcgcat cgtattctgg tcgcaggcta 1140  
tcagaagtgg cacagtctgt tggaaagccg accatcgaag tctttttcga gattctgcaa 1200  
aaggataagc tcgcaacgag ctgtatcatg catgttggca atgaagaaaa cgtccgacag 1260  
atcatgcagc atcgggtcca tatggcaggc agtgatggga tcttgacagg gcagacgcta 1320  
caccacgag cttatggcac attcacgcgg tatttaggac actattctcg tgaactctcg 1380  
cttgttctc tgcggtccat gatcgtcac cttacatcac ggcccgccaa acgactttcg 1440  
gtatatccat atcgggtctt gattgctgaa ggatccgtg ccgacattgt ggtttttaac 1500  
cccgaacgg taaaggatat gtcgacgtat gaagagccaa aggtgccaag tcggggcatt 1560  
agatttgctc tagttaacgg ccagatagct gtggacgaag gcaagatgac aggcacaaga 1620  
gggggtaaaa cactgagaag aagcaccgat ggcaaggta aggcaagaga tgagtaa 1677

<210> 2

<211> 558

<212> PRT

<213> *Hypomyces mycophilus*

<400> 2

Met Arg Thr Glu Ile Leu Phe His Ser Ala Thr Val Ile Thr Gly Asp

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Glu Ala Ala Gln Pro Phe Val Ala Asp Val Leu Val Ser Lys Gly Leu

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Ile Ala Lys Ile Gly Asn Pro Gly Ser Ile Asn Ala Thr Pro Asp Thr

35	40	45
Arg His Leu Asp Val Thr Gly Tyr Ile Leu Ser Pro Gly Phe Ile Asp		
50	55	60
Met His Ala His Ser Asp Leu Tyr Leu Leu Ser His Pro Asp His Glu		
65	70	75 80
Ala Lys Ile Thr Gln Gly Cys Thr Thr Glu Val Val Gly Gln Asp Gly		
85	90	95
Ile Ser Tyr Ala Pro Ile Arg Asn Val Asp Gln Leu Arg Ala Ile Arg		
100	105	110
Glu Gln Ile Ala Gly Trp Asn Gly Asn Pro Thr Asp Glu Glu Cys Arg		
115	120	125
Thr Thr Leu Lys Gly Val Gly Met Phe Glu Trp Gln Thr Ile Gly Glu		
130	135	140
Tyr Leu Asp Cys Leu Glu Arg Asn Arg Thr Ala Thr Asn Val Ala Met		
145	150	155 160
Leu Val Pro Gln Gly Asn Leu Arg Leu Leu Ala Cys Gly Pro Tyr Asp		
165	170	175
Thr Pro Ala Ser Ala Glu Glu Ile Gln Asp Gln Ile Gln Leu Leu Arg		
180	185	190
Glu Ala Met Ala Gln Gly Ala Val Gly Met Ser Ser Gly Leu Thr Tyr		
195	200	205
Thr Pro Gly Met Tyr Ala Ser Thr Ser Glu Leu Ala Ser Leu Cys Ala		
210	215	220
Ala Leu Ala Gln Glu Phe Pro Gly Ala Phe Tyr Ala Pro His His Arg		

225	230	235	240
Ser Tyr Gly Phe Gln Ala Ile Glu Ser Tyr Ala Glu Met Leu Asp Leu			
245	250	255	
Gly Glu Ser Thr Gly Cys Pro Ile His Leu Thr His Ala Thr Leu Asn			
260	265	270	
Phe Ser Glu Asn Lys Gly Lys Ala Pro Val Leu Ile Ser Met Val Asp			
275	280	285	
Lys Ser Leu Ala Ala Gly Val Asp Val Thr Leu Asp Thr Tyr Pro Tyr			
290	295	300	
Leu Pro Gly Cys Thr Thr Leu Ala Ala Leu Leu Pro Ser Trp Ala Ser			
305	310	315	320
Ala Gly Gly Pro Gln Glu Thr Leu Lys Arg Leu Glu Asp Ala Glu Ser			
325	330	335	
Arg Glu Lys Ile Arg Ile Ala Val Glu Ile Lys Gly Cys Asp Gly Gly			
340	345	350	
His Gly Ile Pro Thr Asn Trp Asp Glu Ile Gln Ile Gly Thr Thr Asn			
355	360	365	
Glu Pro Ser Ile Ala Ser Tyr Ser Gly Arg Arg Leu Ser Glu Val Ala			
370	375	380	
Gln Ser Val Gly Lys Pro Thr Ile Glu Val Phe Phe Glu Ile Leu Gln			
385	390	395	400
Lys Asp Lys Leu Ala Thr Ser Cys Ile Met His Val Gly Asn Glu Glu			
405	410	415	
Asn Val Arg Gln Ile Met Gln His Arg Val His Met Ala Gly Ser Asp			

420

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430

Gly Ile Leu His Gly Gln Thr Leu His Pro Arg Ala Tyr Gly Thr Phe

435

440

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Thr Arg Tyr Leu Gly His Tyr Ser Arg Glu Leu Ser Leu Val Ala Leu

450

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Pro Ser Met Ile Ala His Leu Thr Ser Arg Pro Ala Lys Arg Leu Ser

465

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480

Val Tyr Pro Tyr Arg Gly Leu Ile Ala Glu Gly Ser Ala Ala Asp Ile

485

490

495

Val Val Phe Asn Pro Glu Thr Val Lys Asp Met Ser Thr Tyr Glu Glu

500

505

510

Pro Lys Val Pro Ser Arg Gly Ile Arg Phe Val Leu Val Asn Gly Gln

515

520

525

Ile Ala Val Asp Glu Gly Lys Met Thr Gly Thr Arg Gly Gly Lys Thr

530

535

540

Leu Arg Arg Ser Thr Asp Gly Lys Val Lys Ala Arg Asp Glu

545

550

555

&lt;210&gt; 3

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Artificially

Synthesized Primer Sequence

<400> 3

cccggcttca tcgacatgca

20

<210> 4

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
Synthesized Primer Sequence

<400> 4

ttcatcgaca tgca ygcna

20

<210> 5

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
Synthesized Primer Sequence

<400> 5

tgnggngcrt craangcytg

20

<210> 6

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
Synthesized Primer Sequence

&lt;400&gt; 6

aangcytgng grtaytcrtc

20

&lt;210&gt; 7

&lt;211&gt; 321

&lt;212&gt; DNA

<213> *Hypomyces mycophilus*

&lt;400&gt; 7

ttcatcgaca tgcattgcga gctggatggt caaccttgac aactacaaca agatactctc 60  
 tgtagacaaa aaatcggggg tcgtgggtcat gcagagcggc attcgactat acaccctttg 120  
 cgaagagctg gagctacatg gcctggcaat gccgaacctg ggaggtataa acgagcaatc 180  
 catgcgccgc gccatatcta caggcacaca cggcagcagc atccaccacg gcctcatgtc 240  
 tgaggatatt ctgcgtctga aaatcactct cggggcggc aagacggagg catgtccaa 300  
 agacgaatac cccaagcct t 321

&lt;210&gt; 8

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Artificially  
 Synthesized Primer Sequence

&lt;400&gt; 8

aggccaaaat cacccaagga

20

&lt;210&gt; 9

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Artificially  
 Synthesized Primer Sequence

<400> 9

attggggaat acttgattg

20

<210> 10

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
Synthesized Primer Sequence

<400> 10

ctggttcttt ccgcctcaga

20

<210> 11

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
Synthesized Primer Sequence

<400> 11

attaaccctc actaaagggc

20

<210> 12

<211> 1325

<212> DNA

<213> *Hypomyces mycophilus*

<400> 12

caggacggcc actaatgtcg ccatgttggt tccgcaaggc aacctgagat tattggcatg 60  
tggtccatac gatactccag catctgcaga agagattcaa gatcaaatcc agctcttgcg 120



agaggctatg gctcaggggt ctgtcgggat gtctagtgggt ctcaattata cacccggtcat 180  
 gtatgcttcc acgtcggaac tagcttctct gtgcgcggcc ctgcacaag aatttccagg 240  
 tgcattctat gcgccacatc atagaagtta tgggttccag gccatcgaaa gttatgccga 300  
 aatgttggat ctcgagagat caacaggctg tccattcat cttacacatg caacgctcaa 360  
 cttttcagaa aataagggtta aagctcctgt cctcatctct atggttgata aatctcttgc 420  
 tgcaggcgtg gatgtcacac ttgatacgta tccatacttg ccaggctgta caactctggc 480  
 tgcattgctg ccaagtcggg catctgctgg cggcccacaa gagacgctta aaaggcttga 540  
 ggatgcagaa tcgagagaaa agattcgtat agccgtggaa atcaaagggt gtgatggcgg 600  
 ccatggtatt ccaaccaact gggacgaaat ccagatcggg acgactaatg aaccatcaat 660  
 cgcatcgtat tctggtcgca ggctatcaga agtggcacag tctgttggaa agccgacctat 720  
 cgaagtcttt ttcgagattc tgcaaaagga taagctcgca acgagctgta tcatgcatgt 780  
 tggcaatgaa gaaaacgtcc gacagatcat gcagcatcgg gtccatatgg caggcagtga 840  
 tgggatcttg cacgggcaga cgctacaccc acgagcttat ggcacattca cgcggtattt 900  
 aggacactat tctcgtgaac tctcgttgt tgctctgccg tccatgatcg ctcaccttac 960  
 atcacggccc gccaaacgac tttegggtata tccatatcgc ggtctgattg ctgaaggatc 1020  
 cgctccgac attgtggttt ttaaccccga aacggtaaag gatatgtcga cgtatgaaga 1080  
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 ggtgaaggca agagatgagt aaagtctcga tctgcatccg cgtgcccac aacaggatca 1260  
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 caata 1325

<210> 13

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
Synthesized Primer Sequence

<400> 13

cggagagtca acaggctgtc c

21

<210> 14

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
Synthesized Primer Sequence

<400> 14

cgcaggctat cagaagtggc

20

<210> 15

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
Synthesized Primer Sequence

<400> 15

atgccctca actggtctac

20

<210> 16

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
Synthesized Primer Sequence

<400> 16

catatgatat cccgtcttgg

20

<210> 17

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
Synthesized Primer Sequence

<400> 17

gattttggcc tcgtggcag

20

<210> 18

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
Synthesized Primer Sequence

<400> 18

cctcagtgga tgttgccttt ac

22

<210> 19

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
Synthesized Primer Sequence

<400> 19

gcctgtacgg aagtgttact

20

<210> 20

<211> 253

<212> DNA

<213> *Hypomyces mycophilus*

<400> 20

gtgagagagt aggtagaggt ctgaatgcgc atgcataatcg atgaaaccag gagatagaat 60  
 gtagcctgtg acgtcgagat gccgcgtatc tggagttgca ttgatggaac cggggttacc 120  
 aatcttggca atcagtcctt tcgaaaccag cacatcggcc acaaagggtt gggctgcttc 180  
 atgccggtg ataacagtgg ctgagtggaa gagaatttca gtccgcatcg ttggcaatgg 240  
 gaattcttct ggt 253

<210> 21

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
 Synthesized Primer Sequence

<400> 21

gagaagctta cagaattctc tccattattg ac 32

<210> 22

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
 Synthesized Primer Sequence

<400> 22

gagaagctta ccagaagaat tcccattgcc 30

<210> 23

<211> 32

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
Synthesized Primer Sequence

<400> 23

gagaagcttg tacgatgaat aaatatatgt gt

32

<210> 24

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Artificially  
Synthesized Primer Sequence

<400> 24

gagaagctta ttgaccattt ccccatgac

30

<210> 25

<211> 1897

<212> DNA

<213> Hypomyces mycophilus

<400> 25

agcttgacca tgattacgaa ttcgagctcg gtaccgggg atcctctaga gtcgacctgc 60  
aggcatgcaa gcttaccaga agaattccca ttgccaacga tgcggactga aattctcttc 120  
cactcagcca ctgttatcac cgcgatgaa gcagcccagc cctttgtggc cgatgtgctg 180  
gtttcgaagg gactgattgc caagattggt aaccccggtt ccatcaatgc aactccagat 240  
acggggcatc tcgacgtcac aggtacatt ctatctctg gtttcatcga tatgcatgcg 300  
cattcagacc tctacctact ctctcatcct gaccacgagg ccaaaatcac ccaaggatgc 360  
acaacggaag ttgtgggcca agacgggata tcatatgcac caattcgtaa tgtagaccag 420  
ttgagggcga tccgagaaca gattgctgga tggaatggca atcctacaga tgaggagtgc 480

cggacaactc tcaaaggcgt tggcatgttt gaatggcaga ctattgggga atacttggat 540  
 tgtttggaga gaaacaggac ggccactaat gtcgcatgt tggttccgca aggcaacctg 600  
 agattattgg catgtggccc atacgatact ccagcatctg cagaagagat tcaagatcaa 660  
 atccagctct tgcgagaggc tatggctcag ggtgctgtcg ggatgtctag tggctcact 720  
 tatacacccg gcatgtatgc ttccacgtcg gaactagctt ctctgtgcgc ggccctcgca 780  
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 cttaaaaggc ttgaggatgc agaatcgaga gaaaagattc gtatagccgt ggaaatcaaa 1140  
 ggggtgtgatg gcggccatgg tattccaacc aactgggacg aaatccagat cgggacgact 1200  
 aatgaaccat caatcgcatc gtattctggt cgcaggctat cagaagtggc acagtctggt 1260  
 ggaaagccga ccatcgaagt ctttttcgag attctgcaaa aggataagct cgcaacgagc 1320  
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 cagatagctg tggacgaagg caagatgaca ggcacaagag ggggtaaaac actgagaaga 1740  
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 caacaacagg atcaagtcgt cacagcatga tacggcaggc tttggagtag ataccatgtc 1860  
 atgggggaaa tggtaataa gcttggcact ggccgtc 1897

<210> 26

<211> 25

<212> PRT

<213> *Hypomyces mycophilus*

<400> 26

Gly Phe Ile Leu Ser Pro Gly Phe Ile Asp Met His Ala His Ser Asp

1

5

10

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Leu Tyr Leu Leu Ser His Pro Thr His

20

25

<210> 27

<211> 20

<212> PRT

<213> *Hypomyces mycophilus*

<400> 27

Val Leu Ala Asp Glu Tyr Pro Gln Ala Phe Tyr Ala Pro His Ala Tyr

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Ser Arg Gly Phe

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